



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/363,028 | 07/29/1999 | KENICHI OHTA | 35.C13697 | 7604 |

5514 7590 03/20/2003

FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

VIDA, MELANIE M

ART UNIT PAPER NUMBER

2697

DATE MAILED: 03/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/363,028

Applicant(s)

OHTA, KENICHI

V

Examiner

Melanie M Vida

Art Unit

2697

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 1999.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 7/29/99 has been considered by the examiner and is attached to this office action.

Drawings

2. Figures 10-12 as read from the specification (page 1, lines 20-21), (page 3 line 4, & 21-22), (page 4, line 25-27), respectively, should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-5, 7-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art (hereinafter, Admission), and further in view of Hirata et al. U.S. Patent Number 6,462,838. Referring to **claim 1**, the Admission teaches by way of Figure 10, 11, and 12, the image processing method, where the predetermined patch pattern, fig. 12, item 121, *read as the predetermined test pattern*, is a reference image output, *fig. 12, item 121*, output onto a color printer, 107, *read as the recording medium*.

The Admission does not expressly disclose that plural, identical patches are disposed at different positions on the recording medium.

Hirata teaches by way of Fig. 12, that two automatic image density control, (AIDC) patterns, item 90, are identical and disposed in a plurality of locations. Hirata teaches that the test patterns are formed in the areas of the belt, 34, between the edges of a copy sheet and the edges of the belt, 34, (col. 5, lines 15-25), and (col. 12, lines 10-50).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the Admission's image processing method of one predetermined test pattern with Hirata's teachings of having a plurality of predetermined reference patterns for analyzing image densities reproduced.

One of ordinary skill in the art would have been motivated to do this because the laws of probability theory support that as the number of samples approaches infinity, the accuracy of the ratio of the sample readings and the number of samples approaches a true and accurate reference value. Therefore, by discriminating among the readings from a plurality of reference boards, the accuracy of the scanner readings is improved.

Referring to **claim 2**, the Admission further teaches that the density readings from a reference patch can be measured not only by an expensive densitometer, but also by a flatbed scanner, (page 7, lines 1-15).

Referring to **claim 3**, Hirata further teaches that an approximate gradation reproduction characteristic, may be calculated from an average value from the measured values obtained by the test patterns, 90, on either end of the copy surface is used to form measured values, so that

Art Unit: 2697

the specific gradation level of the input image correspond to the target density calculated, (col. 12, lines 51-67), (col. 13, lines 1-5), (col. 13, lines 45-51), (figure 12-13).

Hirata further teaches **claim 4** in that there is one file for each color CMYK each containing six AIDC, *read as test patterns*, having different image densities from each other, *read as the patches vary according to a color of the patch* (col. 12, lines 34-48).

Hirata further teaches **claim 5** in that the automatic image density control (AIDC) patterns, 90, *read as the pre-determined test patterns*, can be formed in three or more areas arranged in the main scanning direction so that the density gradient in that direction is more precisely measured (col. 15, lines 54-60), and/or formed in the sub-scan direction (col. 12, lines 36-37).

Hirata further teaches **claim 7** in that each of the files for CMYK contain four test files for differing image densities on each, wherein it is inherently taught there may be a larger number of patches in the high density portions than the patches in low density portion in one of the four AIDC test patterns stored in a color file (col. 12, lines 35-44).

Referring to **claim 8**, Hirata inherently teaches that the number of gradation values n , for the input image and m for the output image can vary to emphasize either a high density patch such as black from another color (col. 15, lines 60-67)

With regards to **claims 9-10**, please refer to the likes of claim 1.

5. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over the Admission in view of Hirata and further in view of well-known prior art (MPEP 2144.03). The Admission in view of Hirata teaches all the features of the independent claim 1, but they fail to disclose that

the patch pattern varies according to a kind of recording material as more clearly described in the applicant's specification on page 26, lines 6-12.

The examiner takes Official Notice of the fact that it is well known in the art to vary a test pattern according to the kind of accuracy selected by a user-interface, such as "Draft", "Best", or "Normal", print quality.

It would have been obvious to anyone of ordinary skill in the art at the time of the invention to correspond the test patterns according to the print quality to prevent false error corrections in the density readings measured by a flatbed scanner or densitometer.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Totsugi, JP Patent Number 08321925 two white reference boards to determine the need for the cleaning of a reference board.

Iwasaki et al, US Patent Number 6,426,765 a printing method with calibration using a plurality of test patterns.

Subirada et al. U.S. Patent Number 6,164,750 and 6,390,587 a method to calibrate ink print heads with a test patterns disposed in the direction of scanning and another in the opposite scan direction.

Kanamori U.S. Patent Number 6,313,924 an image forming system with a scanner section to correct gradation characteristics.

Otsuka, U.S. Patent Number 6,416,151 printing different test patterns and measuring the density for a printing apparatus.

Sobol, U.S. Patent Number 5,185,673 calibrates automatically a document processing system using a scanner and test patterns.

Takahashi et al. U.S. Pre-Grant Publication 2002/0016263 a bi-directional scanning with a plurality of test patterns to read an average density.

Rushing et al. U.S. Patent Number 5,546,165 a printer apparatus and scanner with calibration of a contone step pattern

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie M Vida whose telephone number is (703) 306-4220. The examiner can normally be reached on 8:30 am 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass can be reached on (703) 305-4717. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-6743 for regular communications and (703) 308-6743 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

mmv

MMV
March 10, 2003

KAWilliams

Kimberly A. Williams
Primary Examiner
Technology Center 2600